



USDA, National Agricultural Statistics Service

Indiana Crop & Weather Report

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CROP REPORT FOR WEEK ENDING APRIL 25

AGRICULTURAL SUMMARY

Farmers had another excellent week for field work until rain showers pushed across the state over the weekend, according to the Indiana Field Office of USDA's National Agricultural Statistics Service. Corn planting continued at a record pace, ahead of 2004 when 42 percent was planted at this same time. Planting of soybeans is also progressing at a record pace, ahead of 2004 when 8 percent of the crop had been planted. Precipitation received over the weekend will aid in crop emergence as topsoil was becoming dry in several areas.

FIELD CROPS REPORT

There were 5.2 **days suitable for field work**. Fifty-six percent of the intended **corn** acreage has been **planted** compared with 2 percent last year and 14 percent for the 5-year average. By area, 53 percent of the crop has been planted in the north, 63 percent in the central region, and 51 percent in the south. Five percent of the corn acreage has **emerged** compared with 0 percent last year and 1 percent for the 5-year average. Twelve percent of the intended **soybean** acreage has been **planted** compared with 0 percent last year and 2 percent for the 5-year average.

Fifty-three percent of the **winter wheat** acreage is **jointed** compared with 42 percent last year and 53 percent for the 5-year average. **Winter wheat condition** is rated 71 percent good to excellent compared with 78 percent last year at this time.

Major activities during the week included: tillage of soils, nitrogen applications, spraying herbicides, hauling and spreading manure, repairing equipment and taking care of livestock.

LIVESTOCK, PASTURE AND RANGE REPORT

Pasture condition is rated 77 percent good to excellent compared with 65 percent last year. Livestock are reported to be in mostly good condition. Lambing is nearing completion. Spring calving continued on some cattle operations.

CROP PROGRESS TABLE

Crop	This Week	Last Week	Last Year	5-Year Avg.
Percent				
Corn Planted	56	17	2	14
Corn Emerged	5	NA	0	1
Soybeans Planted	12	NA	0	2
Winter Wheat Jointed	53	34	42	53

CROP CONDITION TABLE

Crop	Very Poor	Poor	Fair	Good	Excellent
Percent					
Pasture	0	3	20	58	19
Winter Wheat	0	3	26	59	12

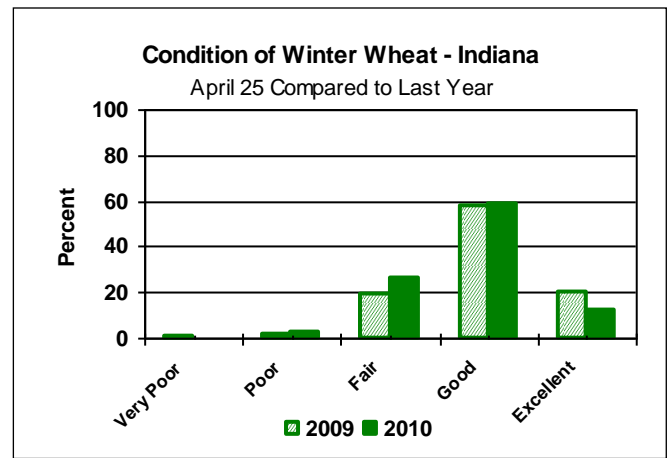
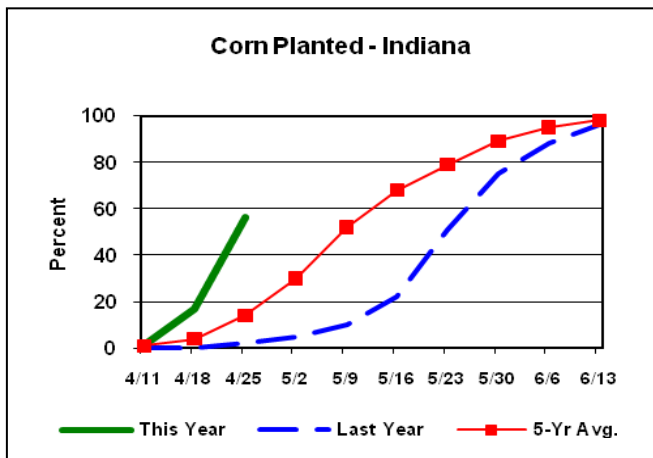
SOIL MOISTURE & DAYS SUITABLE FOR FIELDWORK TABLE

Soil Moisture	This Week	Last Week	Last Year
Percent			
Topsoil			
Very Short	0	1	0
Short	9	9	1
Adequate	71	82	56
Surplus	20	8	43
Subsoil			
Very Short	0	0	1
Short	7	6	2
Adequate	83	85	67
Surplus	10	9	30
Days Suitable	5.2	6.0	2.0

CONTACT INFORMATION

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Crop Progress



Other Agricultural Comments And News

Nitrogen Management Update for Indiana

4-YEAR SUMMARY OF CORN RESPONSE TO NITROGEN FERTILIZER

The average **Agronomic Optimum N Rate (AONR)** for all of our corn/soy sites since 2006 was **186 lbs/ac total applied N** (with an average trial yield of 196 bu/ac). At the five Purdue locations where we conducted paired trials of corn/soy and corn/corn in 2007-2009, the average AONR for corn/corn was **47 lbs greater than for corn/soy** while average corn/corn yields were 20 bu/ac less than the corn/soy yields.

Based on \$0.40/lb N and \$3.50/bu corn, the average **Economic Optimum N Rate (EONR)** for all of our corn/soy sites was **168 lbs/ac total applied N** or 18 lbs less than the average AONR. However, the average yield at the EONR was only 0.5 bushel lower than that at the AONR. The EONR values for other combinations of N cost and grain price are listed in Table 1. If you want to determine EONR for other N and grain prices, use the on-line N calculator for Indiana2 at this web site:

<http://extension.agron.iastate.edu/soilfertility/nrate.aspx>

Nitrogen fertilizer costs remain volatile but continue to be one of the most expensive variable costs for corn. Applying “more than enough N” is no longer cheap “insurance” as it once was many years ago. Applying “more than enough N” is also not environmentally friendly. High N fertilizer costs should encourage growers to critically evaluate their N fertility program, including application rate, fertilizer material, and timing.

Nitrogen rate recommendations for a given field were traditionally linked to its historical yield levels³. For corn following soybean, the traditional rule of thumb was an N rate equal to about 1 lb of N per bushel of

expected yield. For corn following either corn or wheat, the recommendation was equal to about 1.2 lbs. of N per bushel.

These rules of thumb infer that the more N you apply, the more grain you harvest. Actually, yield response to N is usually not a straight-line relationship. In reality, the first pounds of applied N typically return the greatest number of bushels and the last pounds of applied N typically return the fewest number of bushels. At some level of N, grain yield stops increasing with more N. Consequently, applying N above what the crop can use is dollar wasteful and environmentally distasteful.

Throughout the Midwest, most land-grant universities have moved away from yield-based N rate recommendations toward data-driven recommendations that are sensitive to N and grain prices⁴. This so-called “new” approach to N rates is not necessarily new, but simply links documented yield responses to N with the relative economics of grain price and N cost.

A couple of new terms or acronyms have developed from this approach. The term “**Agronomic Optimum N Rate**” or **AONR** defines the N rate that will produce maximum grain yield, regardless of cost. The term “**Economic Optimum N Rate**” or **EONR** defines the N rate that will result in the maximum dollar return to N. The EONR will usually be less than the AONR, will usually decrease as N prices increase, will usually increase as grain prices increase, or may remain the same if the ratio between nitrogen cost and grain price (N:G) remains the same.

(Continued on Back Page)

Weather Information Table

Week Ending Sunday April 25, 2010

Station	Past Week Weather Summary Data							Accumulation				
	Air			Precip.			Avg	April 1, 2010 thru				
	Temperature			Precip.			4 in	April 25, 2010				
							Soil	Precipitation			GDD Base 50°F	
	Hi	Lo	Avg	DFN	Total	Days	Temp	Total	DFN	Days	Total	DFN
Northwest (1)												
Chalmers_5W	74	32	53	-1	1.42	2		3.11	+0.13	8	182	+99
Francesville	71	30	52	-1	1.86	2		3.25	+0.17	8	173	+113
Valparaiso_AP_I	67	33	51	-1	1.05	2		3.05	-0.26	8	181	+125
Wanatah	67	27	50	-2	1.09	2	55	2.80	-0.38	8	149	+107
Winamac	71	35	53	+2	1.57	2	58	2.29	-0.79	6	191	+131
North Central (2)												
Plymouth	69	34	51	-2	1.52	2		2.98	-0.24	7	158	+91
South_Bend	67	32	51	+1	0.40	2		1.59	-1.64	8	176	+127
Young_America	70	34	53	+1	0.39	2		1.46	-1.41	5	190	+132
Northeast (3)												
Fort_Wayne	71	35	55	+4	0.95	2		2.46	-0.37	6	219	+166
Kendallville	71	33	53	+2	0.61	2		1.34	-1.32	7	152	+100
West Central (4)												
Greencastle	71	32	54	-2	0.51	3		1.65	-1.39	7	209	+113
Perrysville	73	32	56	+3	0.99	4	60	1.99	-1.23	10	241	+165
Spencer_Ag	71	32	56	+3	1.22	4		2.95	-0.35	8	231	+149
Terre_Haute_AFB	71	36	58	+4	0.98	4		3.95	+0.76	9	271	+174
W_Lafayette_6NW	77	30	55	+3	1.33	2	64	1.96	-1.10	6	225	+164
Central (5)												
Eagle_Creek_AP	72	40	57	+4	0.54	2		2.17	-0.88	7	280	+191
Greenfield	73	37	56	+4	0.44	2		2.13	-1.19	6	236	+167
Indianapolis_AP	73	41	58	+4	0.53	2		2.35	-0.70	6	297	+208
Indianapolis_SE	70	37	55	+1	0.58	2		1.94	-1.12	7	228	+148
Tipton_Ag	72	33	54	+3	0.50	3	61	1.33	-1.91	8	199	+152
East Central (6)												
Farmland	71	33	54	+3	0.42	2	59	1.50	-1.47	8	205	+162
New_Castle	72	33	54	+3	0.36	2		2.24	-1.13	7	201	+154
Southwest (7)												
Evansville	79	42	61	+4	1.52	3		2.86	-0.45	7	326	+168
Freelandville	73	39	58	+3	1.37	4		2.58	-0.57	7	287	+176
Shoals_8S	73	33	56	+1	1.99	3		3.47	+0.11	6	233	+123
Stendal	78	42	61	+5	0.16	1		1.61	-2.06	5	354	+223
Vincennes_5NE	77	37	59	+4	1.58	3	64	2.80	-0.35	8	303	+192
South Central (8)												
Leavenworth	73	40	59	+4	1.49	4		3.48	-0.35	8	286	+172
Oolitic	71	35	56	+2	1.32	4	63	3.37	+0.07	8	233	+140
Tell_City	79	40	61	+5	1.60	3		3.70	-0.31	6	328	+188
Southeast (9)												
Brookville	72	33	55	+3	0.46	2		2.31	-0.83	5	218	+151
Greensburg	73	36	57	+4	0.85	3		2.49	-0.85	7	283	+201
Seymour	72	34	56	+1	1.17	3		2.75	-0.48	7	229	+135

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DFN = Departure From Normal.
GDD = Growing Degree Days.
Precipitation (Rainfall or melted snow/ice) in inches.
Precipitation Days = Days with precip of .01 inch or more.
Air Temperatures in Degrees Fahrenheit.

For more weather information, visit www.awis.com
or call 1-888-798-9955.

Nitrogen Management Update for Indiana (Continued)

The “new” approach requires yield data from numerous field trials documenting corn yield responses to N fertilizer rates across different soil types, climates, crop rotations, hybrids, tillage systems, etc. Until recently, such yield response data available for Indiana were quite old and few in numbers. We began our current N rate trials in 2006 at seven of Purdue’s research centers plus a number of on-farm sites⁵.

To date, over 100 trials have been conducted around the state. About 69% of them are corn following soybean and the remainder are primarily corn following corn. The N rate treatments have ranged from nothing but starter N to as much as 286 lbs/ac applied N. Most of the trials have used sidedress liquid UAN simply to facilitate trial logistics. Similar N results would be expected from late pre-plant or sidedress anhydrous, but not necessarily from early pre-plant anhydrous or 28% or fall anhydrous. Most of the trials were conducted on fine-textured soils: silt loams, silty clay loams, and the like. All of the trials have been field-scale; meaning that the individual N rate “plots” are usually field length by some multiple of the combine header width. Most of the trials have been harvested with the aid of GPS-enabled yield monitors.

¹ For more information, contact:

Jim Camberato (765-496-9338, jcambera@purdue.edu) or
Bob Nielsen (765-494-4802, rnielsen@purdue.edu).

² As of 1/31/10, the on-line N calculator was not yet updated with our 2009 response data.

³ Indiana Nitrogen Rate Recommendations for Corn A Historical Perspective (1953 – 2007). On-line at

<http://www.agry.purdue.edu/ext/soilfertility/historical-recommendations.html> [URL accessed Dec 2009].

⁴ Concepts and Rationale for Regional Nitrogen Rate Guidelines for Corn (PM-2015). On-line at

<http://www.extension.iastate.edu/Publications/PM2015.pdf>

[URL accessed Dec 2009].

⁵ We gratefully acknowledge the support provided for these trials by the Indiana Corn Marketing Council, Pioneer Hi-Bred Int’l (seed contribution for Purdue trial sites), Beck’s Hybrids (additional trial data), A&L Great Lakes Labs (discounted analysis costs), individual farmers and crop consultants, Purdue Univ. Office of Ag Research Programs, and all of the Purdue Ag Center staff.

More information on this topic at:

<http://www.kingcorn.org/news/timeless/NitrogenMgmt.pdf>

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